**credit-card-fraud-detection.**

Dataset of this project is available in:

[Credit Card Fraud Detection] ([creditcard.csv](https://kh3-ls-storage.s3.us-east-1.amazonaws.com/Updated%20Project%20guide%20data%20set/creditcard.csv))

* Raw file is available in:

[raw data] (creditcard.csv)

* Problem Statement

A credit card is one of the most used financial products to make online purchases and payments. Though the Credit cards can be a convenient way to manage your finances, they can also be risky. Credit card fraud is the unauthorized use of someone else's credit card or credit card information to make purchases or withdraw cash.

It is important that credit card companies can recognize fraudulent credit card transactions so that customers are not charged for items that they did not purchase.

The dataset contains transactions made by credit cards in September 2013 by European cardholders. This dataset presents transactions that occurred in two days, where we have 492 frauds out of 284,807 transactions. The dataset is highly unbalanced, the positive class (frauds) account for 0.172% of all transactions.

We must build a classification model to predict whether a transaction is fraudulent or not.

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* Results on Decision Tree classifier for test data

Model Accuracy is: 0.9994713283755683

[[566543 8]

[ 22 73]]

precision recall f1-score support

0 1.00 1.00 1.00 56651

1 0.90 0.77 0.83 95

accuracy 1.00 56746

macro avg 0.95 0.88 0.91 56746

weighted avg 1.00 1.00 1.00 56746

Decision Tree gives an Accuracy of 99.95 % with 100% precision, 100% recall and 100% f1 score.

So, it the best model to find frauds in credit cards.